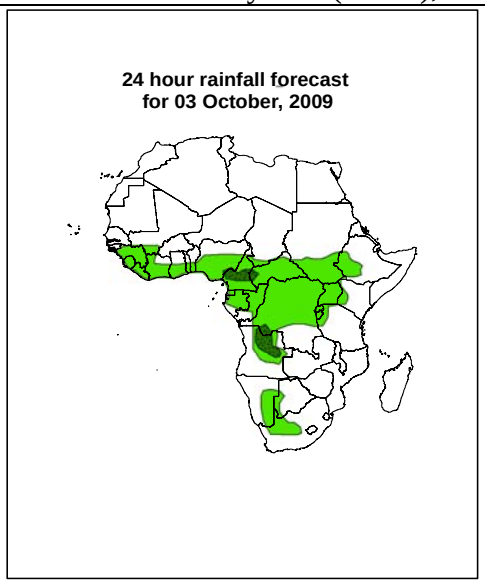
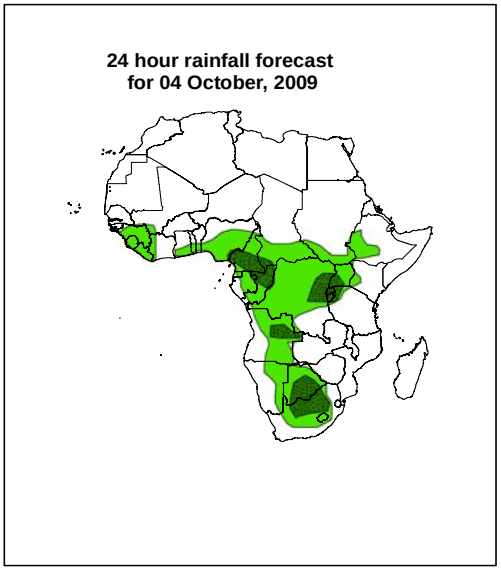
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

FORECAST DISCUSSION 14H00 EST, 05 OCTOBER, 2009
Valid: 00Z 06October – 08 October, 2009

1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of probability of precipitation (POP) exceedence based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS), and expert assessment.





Legend

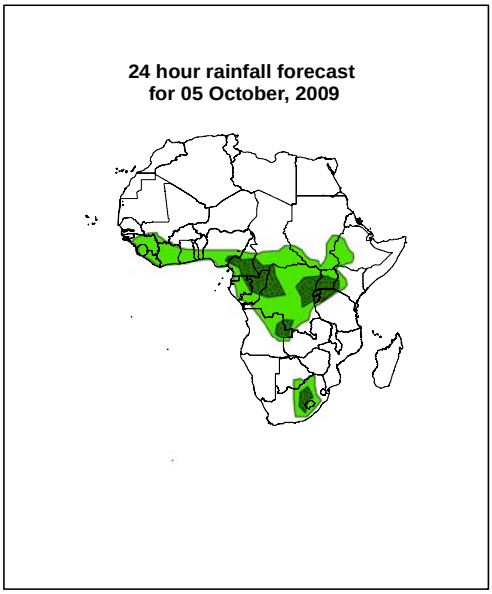
> 40mm, with probability 70%

> 20mm, with probability 70%

> 10mm, with probability 70%

Summary

The convergence and confluence lines are expected to continue dominating the flow over Tanzania, Angola, Namibia, DR Congo and Sudan. On the other hand, the southern hemisphere subtropical anticyclones are expected to remain weak over southeast Atlantic and southwest Indian Oceans, with their peripheral winds mainly converging into southern and eastern African countries.



2. Model discussion

Model comparison (Valid from 00Z; 05, OCTOBER, 2009): all the three models are in general agreement especially with respect to the positioning of large scale features, however, the UK model tends to give lower values than both the GFS and ECMWF models especially in the Equatorial region (10^oS and 10^oN).

2.1. Weather assessment for the previous day (04 September 2009):

During the previous day, moderate to heavy rainfall events were observed over Central Africa Rep. Congo, Uganda, Southern and Eastern tip of Africa.

2.2. Weather assessment for the current day (05 September 2009):

During the previous day, moderate to heavy rainfall events were observed over Central Africa Rep. Congo, Uganda, Southern and Eastern tip of Africa

2.3. Flow at 850hPa

T+24h: The convergence and confluence lines are expected to continue dominating the flow over Tanzania, Angola, Namibia, DR Congo and Sudan, Ethiopia and Nigeria On the other hand, the southern hemisphere subtropical anticyclones are expected to remain weak over southeast Atlantic and southwest Indian Oceans, with their peripheral winds from Mascarene anticyclone converging Eastern and Southern Africa. The peripheral winds from St.Helene cyclone are expected carry moisture towards a convergence over the Gulf of Guinea.

T+48h: The localized convergence and confluence lines are expected to persist over Tanzania, Uganda and DR Congo, Namibia, Cameroon, Mali, Nigeria Angola and South Africa. On the other hand, the Mascarene anticyclone system is expected to intensify over southwestern Indian Ocean. The peripheral winds from subtropical anticyclones are expected to converge into southern, western and eastern African countries.

T+72h: The localized convergence and confluence lines are expected to persist over DR Congo, Tanzania, Uganda, Rwanda, Ethiopia, Sudan, Angola, Namibia, while extending to Nigeria. Southern Hemisphere subtropical cyclones are expected to expand and push the northern hemisphere convergence and confluence lines slightly to the north of 10^oN.

2.3.2 Flow at 700hPa

T+24h: Zonal easterly flow is expected to dominate the flow over the tropical African region with a weak trough axis extending between Gulf of Guinea and Nigeria

T+48h: A trough associated with the weak easterly wave is expected to move westward, while weakening.

T+72h: No significant change in the main flow pattern.

2.3.3 Flow at 500hPa

T+24h: Mid tropospheric easterlies are expected to persist dominating the flow over tropical African countries, with an axis of weak trough in the easterlies, having its axis across Guinea and Mali.

T+48h: The Mid tropospheric easterly trough is expected to move westward and another weak trough axis is expected to form over Nigeria and Chad.

T+72h: No significant change in the main flow pattern.

2.3.4 Flow at 200hPa

T+24h: A ridge associated with upper tropospheric anticyclone is expected to dominate the flow between 10^{o} and 30^{o} N latitudes and south of the equator, while the upper level easterly flow is expected to be dominant over Horn of Africa.

T+48h: The upper troposphric easterly flow is expected to extend towards central African countries.

T+72h: Much of the tropical region of Africa is expected to be dominated by a flow associated with upper tropospheric anticyclones.

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